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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,360	11/14/2000	Daniel Eiref	0100.0001590	9095

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EXAMINER

ONUAKU, CHRISTOPHER O

ART UNIT	PAPER NUMBER
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2616

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DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/712,360

Applicant(s)

EIREF ET AL.

Examiner

Christopher O. Onuaku

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 13-25 is/are allowed.
- 6) ☒ Claim(s) 6-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeuchi et al (US 6,297,797).

Regarding claim 6, Takeuchi et al (US 6,297,797) disclose a computer system having a function of displaying closed caption data included in a data stream that has been digitally compressed and encoded on a display monitor; and a closed caption method used in that system, comprising the method steps of:

- a) decrypting the DVD data in the CPU and creating packet data (see Fig.4; CPU 11; col.9, lines 12-43);
- b) sending the packet data to a buffer via memory bus (see FIFO buffer 162; col.8, lines 51-63);

c) forwarding the packet data from the buffer, via a transport bus,
to an MPEG-type decoder (see MPEG-2 decoder 204; col.8, line 64 to col.9, line 43).

Regarding claim 7, Takeuchi et al disclose the method wherein the MPEG-type decoder is an MPEG-2 decoder (see MPEG-2 decoder 204 of Fig.4; col.9, lines 13-22).

Regarding claim 8, Takeuchi et al disclose the method wherein the buffer is a FIFO element (see FIFO buffer 162 of Fig.4; col.8, lines 50-63).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et al in view of Casparian (US 5,450,549).

Regarding claim 9, Takeuchi et al fail to explicitly disclose the method wherein the FIFO element generates a refill request interrupt when the FIFO element reaches a predetermined "almost empty" state.

Casparian teaches video image processing, including an image buffer architecture which is capable of providing multiple image frames or snapshots simultaneously, either to a plurality of image processors or to multiple locations within a

computer system, providing a highly flexible image data input/output buffering system, comprising async queuing arbiter 27 which controls the RAM READ operations to output data to the FIFO register. Each FIFO register has two flags that are constantly sensed by the asynchronous queuing arbiter, namely, an empty flag and a 1/8 full (e.g., almost empty) flag. In the case when a scan line, within FIFO register, has been shifted out to the point where only 1/8 of the scan line is left, the FIFO register's 1/8 full flag becomes active. The shift out clock rate of the particular FIFO register is determined by the destination device receiving the region of interest ROI) image dam; i.e., the image processor or other device. The 1/8 full flag is used to request a 'refill' of the next scan line of the particular ROI to prevent the FIFO register from becoming empty before receiving the next scan line (see Fig.2, 18A-18C; ASYNC QUEUE CKT 27; col.9, lines 4-63).

It would have been obvious to modify Takeuchi by realizing Takeuchi with the means to cause the FIFO buffer of Takeuchi to generate a refill request flag (interrupt), as taught by Casparian, when the FIFO buffer reaches an "almost empty" state, since this provides the desirable advantage of indicating when the FIFO buffer reaches a predetermined "almost empty" state, thereby stopping the FIFO buffer from getting empty.

Regarding claim 10, Casparian further teaches the method wherein CPU forwards further packet data to the FIFO element when the CPU detects the refill request interrupt (see col.10, line 34 to col.11, line 23).

Regarding claim 11, Casparian teaches wherein the method further includes clocking the data out of FIFO element with a free running clock (see col.9, lines 49-63).

Regarding claim 12, Takeuchi and Casparian fail to explicitly disclose the method wherein the packet data is clocked out of the FIFO element in a range of 10Mb/sec to 60Mb/sec, but this would have been an obvious engineering design consideration depending on the circuit at hand.

Allowable Subject Matter

5. Claims 1-5&13-25 are allowable over the prior art of record.
6. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, the invention relates to methods and devices for passing clear DVD data (such as, DVD program streams), including methods and devices for passing any form of encrypted data from any source.

The closest references Takeuchi et al (US 6,297,797) disclose a computer system having a function of displaying closed caption data included in a data stream that has been digitally compressed and encoded on a display monitor, and a closed caption method used in that system, and Casparian teaches video image processing, including an image buffer architecture which is capable of providing multiple image frames or snapshots simultaneously, either to a plurality of image processors or to

multiple locations within a computer system, providing a highly flexible image data input/output buffering system.

However, Takeuchi and Casparian fail to explicitly disclose a method for passing clear DVD program streams from a CPU to an MPEG-2 decoder, where the method comprises the steps of reading, via a CPU, DVD data from a DVD drive across a PCI bus, decrypting the DVD data in the CPU and creating packet data, sending the packet data to a FIFO element via a memory bus, and forwarding the packet data from the FIFO, via a transport bus, to an MPEG-2 decoder.

Regarding claim 13, the invention relates to methods and devices for passing clear DVD data (such as, DVD program streams), including methods and devices for passing any form of encrypted data from any source.

The closest references Takeuchi et al (US 6,297,797) disclose a computer system having a function of displaying closed caption data included in a data stream that has been digitally compressed and encoded on a display monitor, and a closed caption method used in that system, and Casparian teaches video image processing, including an image buffer architecture which is capable of providing multiple image frames or snapshots simultaneously, either to a plurality of image processors or to multiple locations within a computer system, providing a highly flexible image data input/output buffering system.

However, Takeuchi and Casparian fail to explicitly disclose a system for passing clear DVD program streams from a CPU to an MPEG-2 decoder, where the system

comprises a packet data decoder connected to the memory bus via a buffer, wherein the CPU reads DVD data from the DVD data source across the PCI bus, decrypts the DVD data and creating packet data, sends the packet data to a the buffer via the memory bus, and wherein the decoder receives the packet data, via the transport bus, from the buffer.

Regarding claim 19, the invention relates to methods and devices for passing clear DVD data (such as, DVD program streams), including methods and devices for passing any form of encrypted data from any source.

The closest references Takeuchi et al (US 6,297,797) disclose a computer system having a function of displaying closed caption data included in a data stream that has been digitally compressed and encoded on a display monitor, and a closed caption method used in that system, and Casparian teaches video image processing, including an image buffer architecture which is capable of providing multiple image frames or snapshots simultaneously, either to a plurality of image processors or to multiple locations within a computer system, providing a highly flexible image data input/output buffering system.

However, Takeuchi and Casparian fail to explicitly disclose a set-top box that passes clear DVD program streams from a CPU to an MPEG-2 decoder, where the set-top box comprises an MPEG type decoder connected to the memory bus via a buffer, wherein the CPU reads DVD data from the DVD data source across the PCI bus, decrypts the DVD data and creates packet data, sends the packet data to a the buffer

via the memory bus, and wherein the MPEG type decoder receives the packet data, via the transport bus, from the buffer.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al (US 6,466,736) teach systems for reproducing information stored on storage media such as optical discs, including an integrated apparatus and method for facilitating the reproduction of information read from optical storage discs of different types such as DVD and compact discs.

Bheda et al (US 5,990,958) teach video decompression, including apparatus and method to perform MPEG video decode in an efficient manner making optimal use of available system memory and computational resources.

Bublil et al (US 6,704,361) teach decoding of digitally encoded video signals, including a decoder for decoding video data and control information which have been encoded using fixed length values and variable length codes.

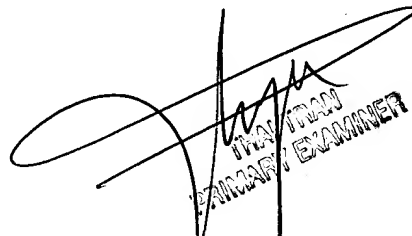
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher O. Onuaku whose telephone number is (703) 308-7555. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Acting supervisor, Thai Tran, can be reached on 703-305-4725. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


COO

9/30/04


PRIMARY EXAMINER